

# SB0654



## 99TH GENERAL ASSEMBLY

### State of Illinois

2015 and 2016

SB0654

Introduced 1/28/2015, by Sen. Dan Kotowski

#### SYNOPSIS AS INTRODUCED:

620 ILCS 35/5  
620 ILCS 35/15

from Ch. 15 1/2, par. 755  
from Ch. 15 1/2, par. 765

Amends the Permanent Noise Monitoring Act. Deletes the definition of "Ldn". Defines "Community noise equivalent level" or "CNEL", "hourly noise level", "noise exposure level", "noise level", and "sound pressure level". Requires permanent noise monitoring reports to include noise contour maps showing the 65 CNEL, 70 CNEL, and 75 CNEL zones (instead of "65 Ldn, 70 Ldn and 75 Ldn zones") around the airport. Makes corresponding changes.

LRB099 00182 HEP 20223 b

FISCAL NOTE ACT  
MAY APPLY

A BILL FOR

1 AN ACT concerning transportation.

2 **Be it enacted by the People of the State of Illinois,**  
3 **represented in the General Assembly:**

4 Section 5. The Permanent Noise Monitoring Act is amended by  
5 changing Sections 5 and 15 as follows:

6 (620 ILCS 35/5) (from Ch. 15 1/2, par. 755)

7 Sec. 5. Definitions. As used in this Act:

8 (a) "Airport" means an airport, as defined in Section 6 of  
9 the Illinois Aeronautics Act, that has more than 500,000  
10 aircraft operations (take-offs and landings) per year.

11 (a-1) "Airport sponsor" means any municipality, as defined  
12 in Section 20 of the Illinois Aeronautics Act, that can own and  
13 operate an airport.

14 (b) "Permanent noise monitoring system" or "system" means a  
15 system that includes at least:

16 (1) automated noise monitors capable of recording  
17 noise levels 24 hours per day 365 days per year; and

18 (2) computer equipment sufficient to process the data  
19 from each noise monitor so that permanent noise monitoring  
20 reports in accordance with Section 15 of this Act can be  
21 generated.

22 (c) "Division" means the Division of Aeronautics of the  
23 Illinois Department of Transportation.

1           (d) (Blank). ~~"Ldn" means day night average sound level.~~  
2 ~~"Day night average sound level" has the meaning ascribed to it~~  
3 ~~in Section 150.7 of Part 150 of Title 14 of the Code of Federal~~  
4 ~~Regulations.~~

5           (e) "Daily community noise equivalent level" or "CNEL"  
6 means the 24-hour average sound level, in decibels, adjusted to  
7 an equivalent level to account for the lower tolerance of  
8 people to noise during evening and night time periods relative  
9 to the daytime period. The daily community noise equivalent  
10 level is calculated from the hourly noise levels by the  
11 following:

$$\text{CNEL} = 10 \log (1/24) [ \text{SIGMA antilog (HNLD/10)} + 3 \text{ SIGMA antilog} \\ \text{(HNLE/10)} + 10 \text{ SIGMA antilog (HNLN/10)} ]$$

14 Where:

15           (1) HNLD means the hourly noise levels for the period  
16 of 7:00 a.m. through 6:59 p.m.;

17           (2) HNLE means the hourly noise levels for the period  
18 7:00 p.m. through 9:59 p.m.;

19           (3) HNLN means the hourly noise levels for the period  
20 10:00 p.m. through 6:59 a.m.; and

21           (4) SIGMA means summation.

22           (f) "Hourly noise level" means the average (on an energy  
23 basis) noise level, in decibels, during a particular hour.  
24 Hourly noise level is determined by subtracting 35.6 decibels

1 (equal to  $10 \log_{10} 3600$ ) from the noise exposure level measured  
2 during the particular hour, integrating for those periods  
3 during which the noise level exceeds a threshold noise level of  
4 55 decibels. At some microphone locations, sources of noise  
5 other than aircraft may contribute to the CNEL. If the airport  
6 sponsor demonstrates that the accuracy of the CNEL measurement  
7 will remain within plus or minus 1.5 decibel, the Division may  
8 grant a waiver to increase the threshold noise level.

9 (g) "Noise exposure level" means the level, in decibels, of  
10 the time-integrated A-weighted squared sound pressure for a  
11 stated time interval or event, based on the reference pressure  
12 of 20 micronewtons per square meter and reference duration of  
13 one second.

14 (h) "Noise level" means the measure in decibels of an  
15 A-weighted sound pressure level as measured using the slow  
16 dynamic characteristic for sound level meters specified in  
17 American National Standard Specification for Sound Level  
18 Meters (ANSI S1.4-1983 as revised by ANSI S1.4A-1985), which is  
19 hereby incorporated by reference. The A-weighting  
20 characteristic modifies the frequency response of the  
21 measuring instrument to account approximately for the  
22 frequency characteristics of the human ear. The reference  
23 pressure is 20 micronewtons/square meter ( $2 \times 10^{-4}$  microbar).

24 (i) "Sound pressure level" means a measurement, in  
25 decibels, of a sound equal to 20 times the logarithm to the  
26 base 10 of the ratio of the pressure of that sound to the

1 reference pressure 20 micronewtons/square meter (2 x 10<sup>-4</sup>  
2 microbar).

3 (Source: P.A. 96-37, eff. 7-13-09.)

4 (620 ILCS 35/15) (from Ch. 15 1/2, par. 765)

5 Sec. 15. Permanent noise monitoring reports. Beginning in  
6 1993 and through 2008, the Division shall, on June 30th and  
7 December 31st of each year, prepare a permanent noise  
8 monitoring report and make the report available to the public.  
9 Beginning in 2009, the airport sponsor shall, on June 30th and  
10 December 31st of each year, prepare a permanent noise  
11 monitoring report and make the report available to the public.  
12 Copies of the report shall be submitted to: the Office of the  
13 Governor; the Office of the President of the Senate; the Office  
14 of the Senate Minority Leader; the Office of the Speaker of the  
15 House; the Office of the House Minority Leader; the United  
16 States Environmental Protection Agency, Region V; and the  
17 Illinois Environmental Protection Agency. Beginning in 2009, a  
18 copy of the report shall also be submitted to the division. The  
19 permanent noise monitoring report shall contain all of the  
20 following:

21 (a) Copies of the actual data collected by each permanent  
22 noise monitor in the system.

23 (b) A summary of the data collected by each permanent noise  
24 monitor in the system, showing the data organized by:

25 (1) day of the week;

- 1 (2) time of day;
- 2 (3) week of the year;
- 3 (4) type of aircraft; and
- 4 (5) the single highest noise event recorded at each
- 5 monitor.

6 (c) Noise contour maps showing the 65 CNEL ~~Leq~~, 70 CNEL ~~Leq~~  
7 and 75 CNEL ~~Leq~~ zones around the airport.

8 (d) Noise contour maps showing the 65 decibel (dBA), 70  
9 dBA, and 75 dBA zones around the airport for:

- 10 (1) 7:00 a.m. through 6:59 ~~to 10:00~~ p.m.;
- 11 (1.5) 7:00 p.m. through 9:59 p.m.;
- 12 (2) 10:00 p.m. through 6:59 ~~to 7:00~~ a.m.; and
- 13 (3) types of aircraft.

14 (e) The noise contour maps produced under subsections (c)  
15 and (d) shall also indicate:

- 16 (1) residential areas (single and multi-family);
- 17 (2) schools;
- 18 (3) hospitals and nursing homes;
- 19 (4) recreational areas, including but not limited to
- 20 parks and forest preserves;
- 21 (5) commercial areas;
- 22 (6) industrial areas;
- 23 (7) the boundary of the airport;
- 24 (8) the number of residences (single and multi-family)
- 25 within each contour;
- 26 (9) the number of residents within each contour;

1 (10) the number of schools within each contour; and

2 (11) the number of school students within each contour.

3 (f) Through 2008, a certification by the Division that the  
4 system was in proper working order during the period or, if it  
5 was not, a specific description of any and all problems with  
6 the System during the period.

7 (g) Beginning in 2009, a certification by the airport  
8 sponsor that the system was in proper working order during the  
9 period or, if it was not, a specific description of any and all  
10 problems with the system during the period.

11 (Source: P.A. 96-37, eff. 7-13-09.)